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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,943	07/21/2000	Robert Keller	TI-30714	4054

7590

12/06/2001

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EXAMINER

KAO, CHIH-CHENG G

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 12/06/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/620,943

Applicant(s)

KELLER ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not seem to include the following reference sign(s) mentioned in the description:

#210 on Page 7, line 4

#407 on Page 29, line 27

Figures 14 and 15 on Page 31, line 15

Correction is required.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not seem to include the following reference sign(s) mentioned in the description:

Fig. 2a, #506

Fig. 7, #71a-d, 73a-d, 75a-h, 77, 79

Fig. 7a-b, #71a, 73a, 75, 77, 79, 81e, 83, 93

Fig. 7c-d, #71b, 73b, 75, 77, 79, 83, 81e, 93

Fig. 9, #99A

Fig. 13, #406

Correction is required.

***Specification***

3. The disclosure is objected to because of the following informality. The Brief Description of the Drawings needs to be rewritten to reflect the submitted Formal Drawings on September 6, 2000. Appropriate correction is required.

***Claim Objections***

4. Claims 1, 7, and 12 are objected to because of the following informality. "A an optical" should be "An optical". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11, 13, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 11 recites the limitation "said predetermined format" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Making claim 11 in accordance with any one of claims 8 to 10 may obviate this rejection. For purposes of expediting examination, claim 11 will be treated as such.

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7. Claim 13 recites the limitation "the format of data to be transmitted" in line 2 and "said data output" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Making claim 13 in accordance with claim 7 may obviate this rejection. For purposes of expediting examination, claim 13 will be treated as such.

8. Claim 17 recites the limitation "said circuitry" in line 1. There is insufficient antecedent basis for this limitation in the claim. Making claim 17 in accordance with claim 7 may obviate this rejection. For purposes of examination, claim 17 will be treated as such.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoen (US Patent 6,253,001). Hoen discloses an optical, path-to-sight link, comprising: light beams (col. 5, line 55) steered by a controllable beam steering device (Fig. 1, #16) with predetermined control signals (col. 3, lines 5-6) having a plurality of two axis rotatable mirrors capable of being rotated in a single axis (Fig. 6) comprising silicon or metal (col. 9, lines 56-60, and an actuator (col. 4, lines 25-28) with inherent control signals. A source of light is also inherent in the apparatus.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirohashi et al. (US Patent 5,600,471) in view of Okada et al. (US Patent 4,727,592).

11. Regarding claims 7-12, Hirohashi et al. discloses an optical, path-to-sight link system (Title) for Ethernet protocol (Fig. 4(A)), comprising a transceiver link (Fig. 21), comprising a transmitting link (Fig. 21, #201A), comprising, a light source (col. 20, lines 18-20), a controllable beam steering device (col. 3, lines 54-56), and circuitry for modulation (Abstract, lines 3-4); and a receiving link (Fig. 21, #202A), comprising, a photo detector (col. 3, lines 5-7) and circuitry for demodulation (col. 4, lines 39-40), and circuitry for encoding and decoding (col. 7, lines 35-38). However, Hirohashi et al. does not specifically disclose an actuator with predetermined control signals and a detection signal between the transmitter and receiver.

Okada et al. teaches a detection signal (Fig. 9, #2 to #7-1, 7-2, and 7-3). The Examiner takes Official Notice that actuators with control signals are considered conventional for moving mirrors.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the detection signal of Okada et al. with the optical, path-to-sight

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link system of Hirohashi et al., since one would be motivated to confirm data transmission quickly as shown by Okada et al. (col. 5, lines 55-59) for greater efficiency in processing.

It would have obvious, to one having ordinary skill in the art at the time the invention was made, to include the actuator with control signals with the optical, path-to-sight link system of Hirohashi et al., since actuators with control signals are considered conventional for moving mirrors. One would be motivated to use an actuator with control signals because of the precise control needed for moving a mirror. Secondly, one would be motivated to use predetermined control signals for autonomous use and increased efficiency in processing.

12. Regarding claim 17, Hirohashi et al. in view of Okada et al. suggests a system as recited above. However, Hirohashi et al. does not specifically disclose a radio frequency detection signal.

On the other hand, Hirohashi et al. does teach that radio transmission is a basic type of wireless transmission (col. 1, lines 51-53).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have a radio frequency detection signal with the suggested system of Hirohashi et al. in view of Okada et al., since making a wired signal into a wireless signal is considered conventional in the art. One would be motivated, to make the signal wireless to simplify the network of wires that would exist if only wires were used and conserve space.

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirohashi et al. in view of Okada et al. as applied to claim 7 above, and further in view of Medved et al. (US Patent

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5,818,619). Hirohashi et al. in view of Okada et al. suggests a system as recited above.

However, Hirohashi et al. does not specifically disclose circuitry to change the format of data.

Medved et al. teaches circuitry to change the format of data (Fig. 1, #10, and col. 1, lines 36-42).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the circuitry of Medved et al. with the suggested system of Hirohashi et al. in view of Okada et al., since one would be motivated to lessen the burden to users of replacing wireless transceiver units for various wireless communication networks as shown by Medved et al. (col. 1, lines 26-34).

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoen as applied to claim 1 above, and further in view of Duguay (US Patent 5,671,304). Hoen discloses an optical, path-to-sight link, as recited above. However, Hoen does not specifically disclose a VCSEL laser diode.

Duguay teaches a VCSEL laser diode (col. 6, lines 22-24).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the VCSEL laser diode of Duguay with the optical, path-to-sight link of Hoen, since one would be motivated to utilize its extremely high performance levels as shown by Duguay (col. 2, lines 26-39) for strong signals, as well as cost and size purposes.

15. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoen as applied to claim 4 above, and further in view of Ghosh et al. (US Patent 5,910,856).



16. Regarding claim 15, Hoen discloses an optical, path-to-sight link, as recited above.

However, Hoen does not specifically disclose coil actuators.

Ghosh et al. teaches coil actuators (col. 1, lines 32-38).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the coil actuators of Ghosh et al. with the optical, path-to-sight link of Hoen, since one would be motivated to use a conventional means such as coil actuators for moving a mirror as shown by Ghosh et al. (col. 1, lines 32-38) and for space conservation (col. 1, line 38).

17. Regarding claim 16, Hoen discloses an optical, path-to-sight link, as recited above.

However, Hoen does not specifically disclose digital to analog converters.

The Examiner takes Official Notice that digital to analog converters are considered conventional in the art for signal processing.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include digital to analog converters with the suggested optical, path-to-sight link of Hoen in view of Ghosh et al., since digital to analog converters are considered conventional in the art for signal processing. One would be motivated to used digital to analog converters for more accurate and real-time responses compared to digital signals, which would only provide discrete responses.

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*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Laor et al. (US Patent 6,295,154) discloses a movable mirror.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk  
November 27, 2001



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